

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Canterbury Mercury Spill - Removal Polrep



EPA Region 5 Records Ctr.



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** POLREP #1  
Initial and Final -AMENDED  
Canterbury Mercury Spill

Ann Arbor, MI

Latitude: Non-Responsive Longitude: Non-Responsive

**To:** Jason El-Zein, U.S. EPA  
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Matthew Naud, City of Ann Arbor

**From:** Jeffrey Lippert, On-Scene Coordinator

**Date:** 1/24/2011  
**Reporting Period:** 12/30/2010 - 1/7/2011

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	C405	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	12/31/2010	<b>Start Date:</b>	12/31/2010
<b>Demob Date:</b>	1/7/2011	<b>Completion Date:</b>	1/7/2011
<b>CERCLIS ID:</b>	MIN000510539	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Emergency Response

#### 1.1.2 Site Description

The Site is located at [Non-Response] Canterbury Street, Ann Arbor, Washtenaw County, Michigan. The Site consists of a one-story, single-family residential home.

##### 1.1.2.1 Location

The Site is located at [Non-Response] Canterbury Street in Ann Arbor, Michigan in a residential area. The Site is immediately surrounded by residential properties (less than 50 feet away) to the east and west, Canterbury Street and residential properties to the north and south.

##### 1.1.2.2 Description of Threat

The owner of the home spilled approximately 1/2 cup of elemental mercury onto the living room floor and into a heating duct. The mercury was from the clock weights of a grandfather clock that was in the living room. The homeowner notified the local fire department immediately upon spilling the mercury. START conducted initial mercury screening at the home with a Lumex mercury vapor analyzer and found mercury vapor levels as high as 20,000 ng/m3 in the home and hundreds of beads of visible mercury on the living room floor.

##### 1.1.2.3 Preliminary Removal Assessment/Removal Site Inspection Results

On December 31, 2010, the Ann Arbor Fire Department, City of Ann Arbor, and Washtenaw County Environmental Health responded to the initial call. Local officials observed hundreds of beads of mercury in the home. The Ann Arbor Fire Department requested assistance from U.S. EPA in performing emergency removal activities at the home. OSC Lippert coordinated efforts with Jeff Krcmarik, RS - Washtenaw County Environmental Health Department, Matthew Naud - City Environmental Coordinator, START, and ERRS and met on-scene. OSC Lippert, and Weston START entered the residence at approximately 0100 and conducted mercury screening. Levels in the ambient air were over 7,500 ng/m3 and carpet around the spill area had mercury levels over 20,000 ng/m3.

Based on the findings of the mercury vapor screening, U.S. EPA initiated an emergency removal action at the home to mitigate threats to public health, welfare, and the environment posed by the presence of free elemental mercury and mercury vapors by removing and disposing of elemental mercury and mercury-contaminated materials within the residence.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

On December 30, 2010, the Ann Arbor Fire Department, City of Ann Arbor, and Washtenaw County Environmental Health responded to the initial call of 1/2 cup of mercury spilled in a residential home. The homeowner notified the local fire department immediately upon spilling the mercury. The Ann Arbor Fire Department, City Environmental Coordinator, and Washtenaw County Health Department responded. The family in the home was evacuated.

Local officials observed hundreds of beads of mercury in the home. The Ann Arbor Fire Department requested assistance from U.S. EPA in performing emergency removal activities at the home. OSC Lippert coordinated efforts with local officials and arrived on-scene at approximately 0010 on 12/31/2010.

After an initial conversation with the home owner, it was determined that approximately 5 pounds of elemental mercury was spilled onto the living room floor and into a heating duct. The origin of the mercury was a clock weight inside a grandfather clock that was in the living room.

OSC Lippert, and Weston START entered the residence at approximately 0100 and conducted mercury screening. Levels of mercury in the carpet and around the spill area were over 20,000 ng/m<sup>3</sup>.

Based on the findings of the mercury vapor screening, U.S. EPA initiated an emergency removal action at the home to mitigate threats to public health, welfare, and the environment posed by the presence of free elemental mercury and mercury vapors by removing and disposing of elemental mercury and mercury-contaminated materials within the residence.

#### **2.1.2 Response Actions to Date**

At approximately 0100 on 12/31/2010, EPA and START screened the Site with a Lumex Mercury Vapor Analyzer. Levels in the home were as high as 20,000 ng/m<sup>3</sup>. ERRS began removing free-standing beads of elemental mercury with a mercury vacuum at approximately 0200. Contaminated items were bagged and placed outside in the driveway. Contaminated carpet and padding was removed and the tile floor beneath was washed with HGX solution. Mercury-contaminated items were placed into drums and sealed. The mercury vacuum was used to remove beads of mercury that had entered the home's duct work. At approximately 0630, all beads of mercury, and mercury-contaminated items had been removed from the home and ERRS began to heat and vent mercury vapor from the home. At approximately 0930, the home was screened again and all levels in the house were below the cleanup criteria set by the local health department. Samples were collected of the waste in the drums for disposal at a later date.

At approximately 1400 on 01/03/2011, START entered the residence to perform follow-up mercury vapor screening within the breathing zone of the home. Mercury vapor levels were measured as high as 1500 ng/m3 within the living room where the spill occurred. The home owner was instructed to heat-and-vent the home to help reduce the mercury vapors trapped inside.

At approximately 1500 on 01/05/2011, START returns to the Site to again perform follow-up mercury vapor screening within the breathing zone after the homeowner heat-and-vented the house four times. Mercury vapor levels were measured as high as 1200 ng/m3 within the living room where the spill occurred.

At approximately 0700 on 01/06/2011, START and ERRS return to the Site to continue the heat-and-vent process within the home. After three heat-and-vent cycles, breathing zone mercury vapor levels averaged between 1000-1400 ng/m3 within the room where the spill occurred. Sporadic high level spikes measured by the mercury analyzer also occurred.

At approximately 0800 on 01/07/2011, START and ERRS arrived on Site to begin additional remediation techniques to address the elevated mercury vapor readings. Upon initial entry to the home, mercury vapor levels were measured as high as 2000 ng/m3 in the breathing zone. Removal of baseboard trim exposed approximately one tablespoon of elemental mercury not previously discovered. A mercury vacuum was used to remove the mercury beads, as well as provide further cleaning of the floor and heat duct of the home. Additional sealing of impacted surfaces, HGX wash, carpet removal, and several heat-and-vent cycles also occurred on Site. Final screening of the home breathing zone measured peak mercury vapor levels at 654 ng/m3; well below the cleanup criteria set by the local health department.

START and ERRS demobilized from the Site at approximately 1900 on 01/07/2011.

### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Non-Responsive

### 2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
Elemental Mercury	5-gallon bucket	10 lbs	Bill of Lading		Bowling Green University
Non-Hazardous Mercury Contaminated Waste	Drums	4 drums			Woodland Meadows Landfill

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

None.

### 2.2.1.1 Planned Response Activities

None.

### 2.2.1.2 Next Steps

None.

### 2.2.2 Issues

None.

## 2.3 Logistics Section

N/A

## 2.4 Finance Section

### 2.4.1 Narrative

Emergency funding secured on 12/30/2010.

#### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$10,000.00	\$6,468.51	\$3,531.49	35.31%
TAT/START	\$10,000.00	\$0.00	\$10,000.00	100.00%
<b>Intramural Costs</b>				
<b>Total Site Costs</b>	<b>\$20,000.00</b>	<b>\$6,468.51</b>	<b>\$13,531.49</b>	<b>67.66%</b>

\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost

recovery.

## **2.5 Safety Officer**

N/A

## **2.6 Liaison Officer**

N/A

## **2.7 Information Officer**

### **2.7.1 Public Information Officer**

N/A

### **2.7.2 Community Involvement Coordinator**

N/A

## **3. Participating Entities**

### **3.1 Unified Command**

Unified command was not utilized.

### **3.2 Cooperating and Assisting Agencies**

City of Ann Arbor

Washtenaw County

City of Ann Arbor Fire Department

Weston Solutions

Environmental Restoration, LLC

U.S. EPA

## **4. Personnel On Site**

Jeffrey Lippert - EPA

Matt Beer - START

4 people - Environmental Restoration, LLC

## **5. Definition of Terms**

U.S. EPA - United States Environmental Protection Agency

ERRS - Environmental Rapid Response Services

START - Superfund Technical Assessment and Response Team

ng/m3 - nanograms per meter cubed

## **6. Additional sources of information**

### **6.1 Internet location of additional information/reports**

N/A

## **6.2 Reporting Schedule**

N/A

## **7. Situational Reference Materials**

Mercury Response Guidebook